

# Karnowsky Creek Stream Restoration Project

## Partners:

- National Forest Foundation
- Oregon Watershed Enhancement Board
- Siuslaw Soil and Water Conservation District
- Siuslaw Watershed Council
- Cascade Pacific Resource Conservation and Development
- Siuslaw National Forest
- Siuslaw Institute



## About Karnowsky Creek

Karnowsky Creek flows into the Siuslaw River Estuary, just nine miles from the Pacific Ocean on the Central Oregon Coast. In the late 1800s this valley was home to pioneers who cleared trees from the valley floor, farmed and tended livestock, hunted wildlife and harvested huge cedar trees to build homes and barns. Grandchildren of the first settlers testify that a steam locomotive once made its way up through the valley to transport logs harvested from the hill slopes. They speak of harsh winters, frequent floods and the work it took to control the stream in their valley.



Today, a large English walnut tree remains as the only testament to the pioneers' presence at the original homestead site. Subsequent owners have finished the task of draining and diking the 93-acre valley floor to accommodate agriculture, leaving the once meandering stream channel to flow through a series of drainage ditches at the valley margins for the majority of its length. The 1,800-acre Karnowsky Creek sub-watershed is now managed primarily by the Siuslaw National Forest (upper 85%) and by three private industrial timber companies (lower 15%).

## The Project Starts

In the Fall of 2000, two Forest Service watershed specialists, Karen Bennett and Johan Hogervorst, walked up the Karnowsky valley with Pete Barrell, then, the Siuslaw Watershed Council Coordinator. They began thinking about the possibilities for restoring the channel, wetland and estuarine processes that once made Karnowsky Creek such a productive stream for aquatic resources in the Siuslaw Basin. Pete shared the concept of a design studio where university students are given a two-month period to gather known information, brainstorm restoration designs and after much internal critique and revision, present a final proposal to land managers for the sub-watershed. The goal would be to restore historic hydrology, aquatic resource populations, and native plant communities within the valley.

By the summer of 2001, the Forest Service had hired 6 student interns from three different universities to implement the design studio concept with Pete Barrell as team leader. Their final product was a fully illustrated proposal complete with settlement history, aerial photo chronology of changes, intensive mapping of current conditions and proposals for restoration of the valley bottom and hill slopes.

Using the student proposal, a partnership of Forest Service, Siuslaw Soil and Water Conservation District (SWCD) and the Siuslaw Watershed Council (SWC) applied for and received grants totaling \$450,000 to restore over three miles of stream channel and its adjacent wetlands, floodplains and tidally influenced areas. Funding for implementation of the first phase of the project came from the Oregon Watershed Enhancement Board (85%) and the National Forest Foundation (15%), while the Forest Service has committed about \$150,000 in planning, design and project management. Under the direction of Eric Nusbaum, the Siuslaw SWCD is administering both the grant money and construction contracts, while the project manager, Johan Hogervorst, is a Forest Service hydrologist, working on the project for the SWCD under an agreement that is the first of its kind for both agencies. Construction began in August, 2002 and is ongoing.



Using both a walking backhoe and an excavator, the channel was constructed in late Summer and Fall of 2002 and old drainage ditches will be plugged to divert water into the new channel in 2003 and 2004. In the fall of 2003, whole trees were flown in by helicopter and placed in the floodplain and new channel.

## The Project Continues

One of the student interns was hired to complete a comprehensive vegetation plan for the valley connected to his master's thesis on disturbance regimes in Oregon Coast Range valley bottoms. A local workforce, volunteers and partners in the restoration are planting riparian trees, shrubs and wetland vegetation. One of those partners is the Mapleton School District. Under the direction of Paula Crowder of the Siuslaw Institute, students are not only growing native plants on campus, but are helping to plant them where they are needed in the project area. Students are also taking water quality samples and are monitoring ground water wells throughout the project area.



The project will extend chum salmon habitat as tidal influence will be allowed back into the bottom half mile of the project area. Further upstream, Coho salmon will rear in slower moving waters of the new channel, adjacent ponds and connected floodplain during both summer and winter months. Steeper sections of stream channel in both the main valley and in three tributary valleys are being restored to provide needed spawning gravels in late Fall and early Winter for adult Coho coming back each year.

Partnerships make it work. Through agreements that are first of their kind, the Karnowsky Creek Stream Restoration Project is restoring a valuable coastal ecosystem while forging working relationships that are just the beginning for the Siuslaw Watershed. In 2004, the Siuslaw Basin Partnership received the prestigious Thiess International Riverprize, awarded annually for excellence in collaborative river restoration around the world. As one of the featured projects in this award, Karnowsky Creek is now an international example of how lines that distinguish agencies, special interest groups, schools, non-profit organizations and local residents are being blurred to allow innovative restoration and education of a new generation.